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ABSTRACT

This guide was developed by the Environmental Protection Agency (EPA) to provide individuals with information about potential careers in environmental research with the agency. The brochure's introduction presents an overview of the EPA and its involvement in setting environmental standards, standards enforcement and monitoring, and future trends in environmental protection. Subsequent sections describe careers in environmental research, list examples of specific research efforts, present EPA job requirements, and explain how to apply for vacancies at the EPA. Lists of EPA human resources offices and sources of environmental career information are provided. (MDH)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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DIVERSITY. WHATEVER YOUR OCCUPATION, YOUR

INVOLVEMENT IS IMPORTANT AND NECESSARY,

AND YOUR EFFORTS ESSENTIAL TO FULFILLING

THE MISSION OF THE UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY.

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PRESERVING OUR FUTURE TODAY

EPA Highlights

In 1974, the Safe Drinking Water Act (SDWA) authorized EPA to establish regulations to limit the amount of various substances in water used for drinking.

The 1987 Clean Water Act amendments require certain industries to "pretreat" their wastewater so that toxic chemicals and other harmful substances do not enter sewage systems that were not designed to treat them.

The new Clean Air Act contains provisions for large reductions in emissions of sulfur dioxide and nitrogen oxides to combat acid rain. The new national goal for year 2000 is to reduce SO_2 emissions nationwide by 10 million tons.

The Resource Conservation and Recovery Act regulates hazardous waste from over 200,000 generators, through transportation, storage and treatment to final disposal. Hazardous waste handlers must now clean up contamination resulting from past waste management practices as well as from current activities.

Work is underway to reduce municipal solid waste through a combination of source reduction and recycling measures.

The 1990 Farm Bill could further reduce agricultural pesticide use and enhance environmental quality. This includes promoting more environmentally sound crop rotation practices, promoting research and education, and providing incentives for farmers to adopt more environmentally sound habits.

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INTRODUCTION TO EPA. . .

We're a dynamic team of diverse people dedicated to improving and preserving the quality of the environment. ❧ The United States Environmental Protection Agency (EPA) was founded in December 1970 to consolidate the government's environmental regulatory activities into a single agency. Over the past 20 years, EPA has greatly expanded its scope and responsibilities in meeting environmental challenges. ❧

Located in Washington, D.C., EPA headquarters is divided into twelve offices: Office of the Administrator; Office of Water; Office of Solid Waste and Emergency Response; Office of Air and Radiation; Office of Prevention, Pesticides and Toxic Substances; Office of Research and Development; Office of Administration and Resources Management; Office of Enforcement; Office of General Counsel; Office of Policy, Planning and Evaluation; Office of International Activities; Office of Inspector General. These offices develop environmental policies, set standards, manage complex research and development programs, and develop regulations for pesticides, toxic substances, hazardous wastes, air, radiation and water. In addition, every EPA program office is developing new technologies designed to prevent pollution. ❧ There are also ten Regional Offices which administer EPA programs and provide technical assistance to state, local and tribal governments. World-class research and development in all the environmental disciplines is carried out in our 20 research facilities. ❧ At last count, EPA employed almost 19,000 and the numbers continue to grow.

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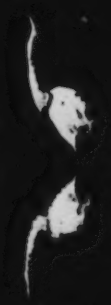

Treatment and disposal of waste are not enough; pollutants must be prevented from being generated in the first place. We have learned the inherent limitations of treating and burying waste. A problem solved in one part of the environment may become a new problem in another part. We must curtail pollution closer to its point of origin so that it is not transferred from place to place.

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SETTING STANDARDS

EPA is responsible for setting standards that help protect the public's health and welfare. Whether this involves restricting pesticide use or setting emission levels for automobiles, EPA is taking steps to ensure a cleaner future.

ENFORCEMENT AND MONITORING

The Agency's philosophy has been to encourage voluntary compliance by private industry and communities, and ensure that state, local and tribal governments perform enforcement activities necessary to meet EPA standards.

Various types of monitoring processes and activities exist within EPA. Some are broadly based monitoring programs that determine whether pollution levels and emissions are increasing or decreasing. Other methods of evaluation determine if the various abatement programs developed by EPA and state and local governments are as effective as they should be.

TRENDS FOR THE FUTURE

EPA's 20 year efforts toward a cleaner environment and improved human health have been vigorous. Worldwide, the belief that industry cannot endure the restrictions of environmental controls, is being replaced by an awareness of industry's role in nurturing the environment. Protecting the planet is a huge commitment and to be successful it will take everyone working together. Complementing EPA's efforts have been state, tribal and local governments, citizen's environmental organizations, and countless individuals, many of whom have been working on pollution control for years. EPA has developed five new themes which reflect future directions for ensuring a cleaner environment: pollution prevention, voluntary action, reducing risks, economic incentives, protecting natural resources. It's time to develop a new pattern of environmental management — working with nature.

EPA headquarters is located in Washington D.C. one of the country's most culturally rich areas. Although one-third of EPA's positions are in our nation's capital we hire environmental researchers at all ten Regional Headquarters and Field Offices. The Regional Offices are located in major cities throughout the U.S. with Field Offices and Labs located in areas that geographically and environmentally enhance each lab's mission.

GEOGRAPHIC LOCATIONS

Research and Development Laboratories

MD-29
Research Triangle Park, NC 27711
919-541-4268

26 W. Martin Luther King Dr.
Cincinnati, OH 45268
513-569-7812

P.O. Box 98516
Las Vegas, NV 89193-8516
702-798-2401

Also serves Labs in:
Ada, OK
Athens, GA
Corvallis, OR
Duluth, MN
Edison, NJ
Gross Ile, MI
Gulf Breeze, FLA
Narragansett, RI
Newport, OR
Warrenton, VA

Field Offices

Denver, CO
303-236-5114

Ann Arbor, MI
313-668-4220

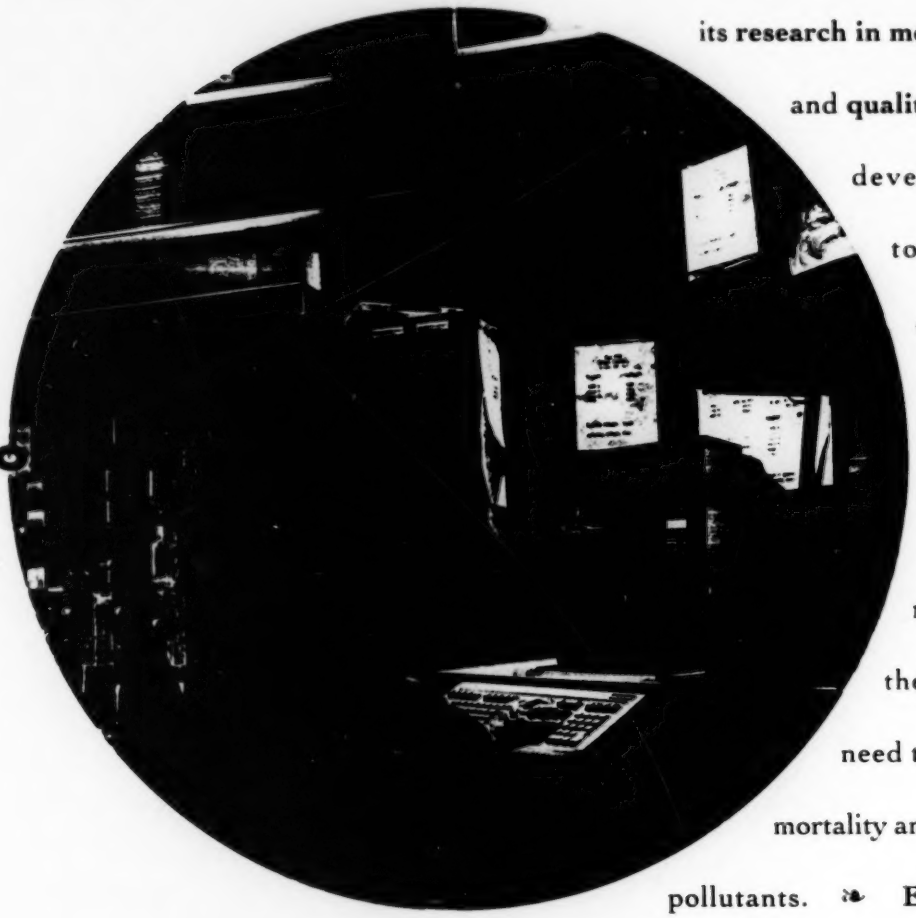
CAREERS IN ENVIRONMENTAL RESEARCH

Science and technology are becoming increasingly important factors in EPA decisions, especially as we become more aware of global environmental problems.

A scientific agency, as well as a regulatory agency, we have a responsibility to conduct environmental research. EPA relies on its research and development office to develop, integrate, and assess scientific and technical information.

EPA's research and development efforts are handled by 12 scientific research laboratories located around the country. Through contracts, grants, and cooperative agreements with universities and private companies, the nearly $500 million per year in research programs is supported by a Science Advisory Board composed of independent experts from a large number of fields associated with environmental sciences.

PRIMARY RESEARCH PROGRAMS ❧ The research and development efforts involve six major activities: ❧ **Research in environmental engineering and technology** looks at pollution from industrial and municipal sources, and examines technologies to reduce or prevent such pollution. ❧ **Environmental processes and effects research** develops information to predict and manage the movement of pollutants through the environment and determines their effects on ecosystems, plants and animals. ❧ Through its **research in monitoring systems and quality assurance**, EPA develops procedures to describe, monitor, and predict the levels of pollutants in the environment. ❧ **Health effects research** provides the information we need to estimate human mortality and illness caused by pollutants. ❧ **EPA's health and environment assessment research** provides a scientific basis for judging the health and environmental effects of exposure to a substance. It also helps in determining the relative risks of such exposure. ❧ The Agency's **exploratory grants program** funds strategic environmental research in universities to support much larger EPA-directed environmental research programs.



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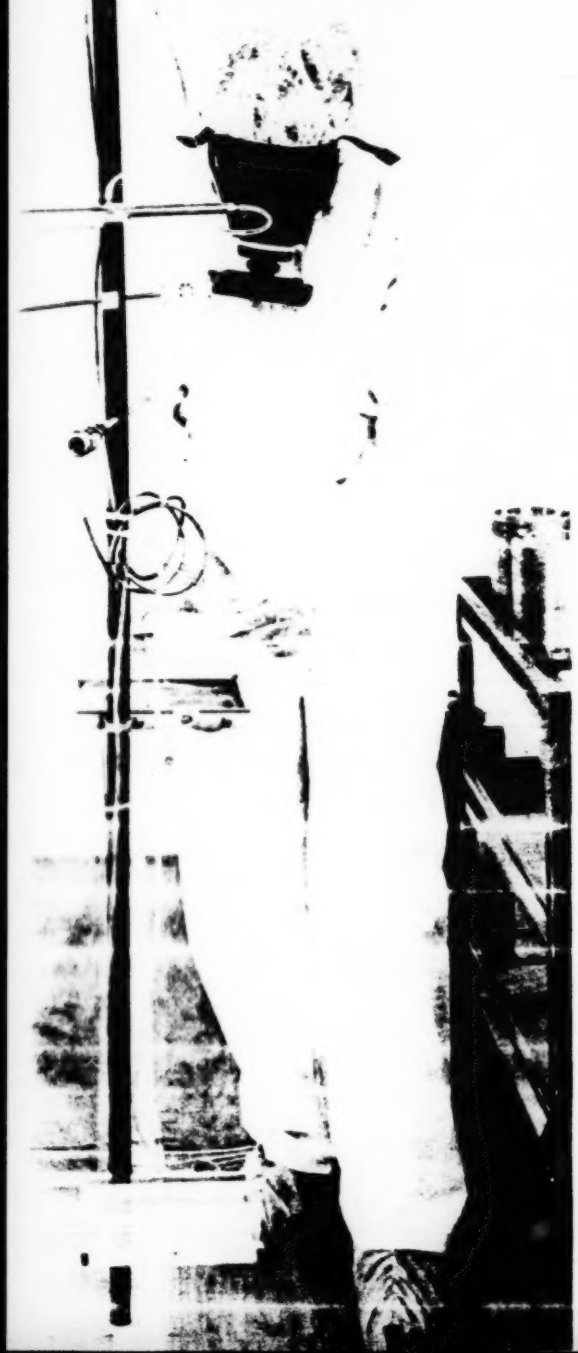
JOB OPPORTUNITIES

An environmental research team can enjoy contributing to research which has a direct impact on the future of our earth. Some of the disciplines which are most needed to conduct this important research and development work are:

- **Operations Research**
- **Physical Sciences Research**
- **Biological Research**
- **Environmental Engineering**
- **Chemical Engineering**
- **Health Research**



The researchers at EPA are working on real issues and problems and looking for innovative technologies to prevent pollution. Some examples of the specific research we are engaged in:

HEALTH EFFECTS RESEARCH

to determine the adverse effect of pollutants on human health.

ECOLOGICAL EFFECTS RESEARCH

to determine the adverse effects of pollutants on the ecosystems.

ENVIRONMENTAL PROCESSES AND FATE RESEARCH

to understand how pollutants are transported and modified as they move through soils, ground, surface waters and the atmosphere.

ENVIRONMENTAL MONITORING RESEARCH

to develop methods of identifying pollutants in the environment and measuring exposure to such substances.

RISK ASSESSMENT RESEARCH

to develop methods of integrating information on pollutant sources, fate and transport, exposure, health and ecological effects in order to assess the overall risk posed by pollutants.

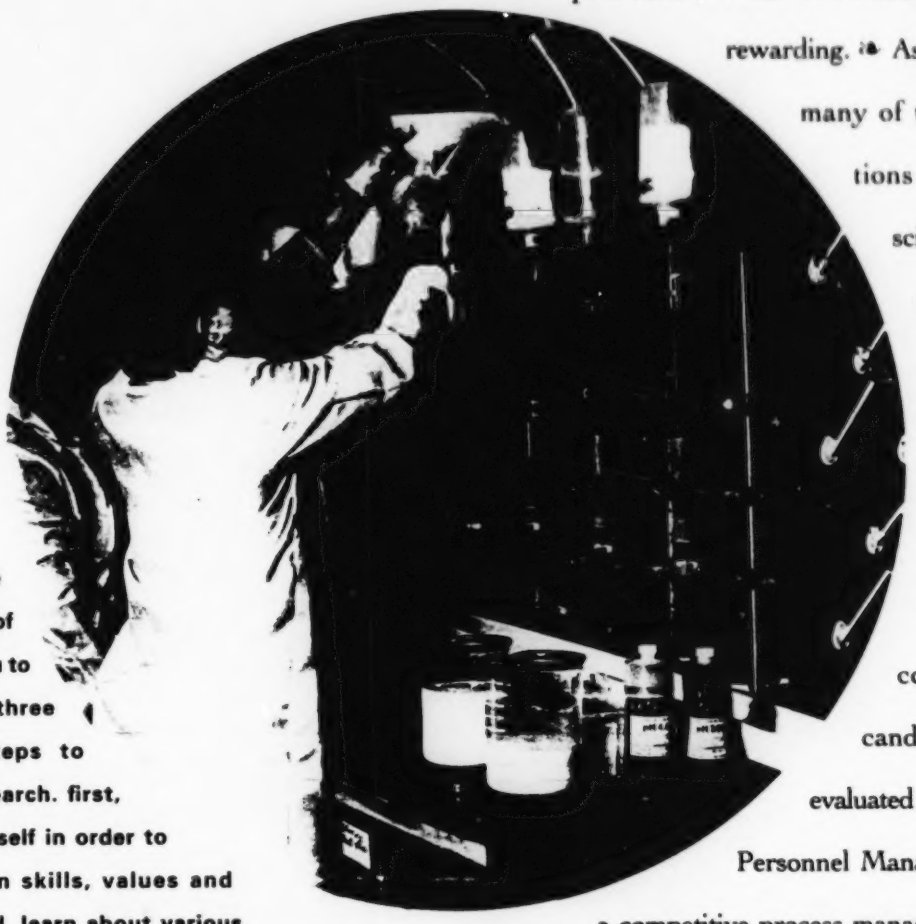
RISK REDUCTION RESEARCH

to develop control technologies to treat, destroy, or contain pollutants; to develop methods to reduce or eliminate the sources and to prevent exposure to pollutants. The researchers at EPA are working on real issues and problems which give us answers on how to improve and preserve our future. Some specific types of research our scientists and engineers are engaged in include:

- **Global Warming:** Develop and evaluate statistical methods and air quality models to detect and predict the impact of the emissions of trace gases on climate and air quality levels.
- **Water Quality Based Approach:** Provide assurance that ambient water quality monitoring data for regulation setting, enforcement, or compliance purposes are scientifically valid and legally defensible.
- **Hazardous Waste Releases:** Provide aerial photography, satellite imagery, and multispectral scanner support to assist regional offices in spill prevention, control and counter-measure surveys, planning and emergency response.
- **Exposure Monitoring:** Monitor dietary, non-dietary, and residential exposure scenarios to investigate human exposure to pesticides.
- **Pollution Prevention:** Provide technical foundations for encouraging the development and adoption of production, recycling and treatment processes that result in the reduction of volume or hazardous nature of waste generated.

JOB REQUIREMENTS

EPA's research program requires the dedicated work of scientists, engineers, technicians, and administrative staff in order to meet the demands of designing and implementing a comprehensive research and development program. If you are an individual who thrives on being on the cutting edge of development of new ideas and processes, and seeing the results of your work make a difference, you will find the challenges presented in the environmental arena most rewarding.



As you would expect many of the research positions require advanced scientific and/or engineering degrees. Most jobs at EPA are in the competitive service, which means that applicants compete with other candidates and must be evaluated by the U.S. Office of Personnel Management or through a competitive process managed by the EPA.

Job requirements vary from position to position. Most professional research staff will be required to hold advanced degrees in their area of expertise. For mid-level and senior-level positions relevant experience may also be required. Specific information on EPA research vacancies can be obtained through one of the EPA Human Resources Offices. Research Triangle Park, North Carolina; Cincinnati, Ohio; and Las Vegas, Nevada are key offices in providing personnel support to our laboratories across the country.

There are hundreds of jobs in EPA for you to investigate and three basic career steps to organize your search. first, learn about yourself in order to assess your own skills, values and interests. Second, learn about various types of work and research your job opportunities. Third, find the educational and job pathways that will lead you where you want to go. If you are already in the profession of your choice and wish to join EPA, call EPA Human Resources Office in the location that you wish to seek employment.

HOW TO APPLY

We're looking for high quality people — hard workers and self-starters willing to persevere in any task undertaken. For most research positions it is important to respond to a specific job vacancy which will specify the skills, knowledge and abilities required for the position. With that information you can then tailor your Application for Federal Employment (Standard Form 171) to meet the need of the position being advertised. It is very important to provide any documentation required to support your application such as transcripts, list of publications, as requested on the vacancy announcement. Candidates wishing to obtain information on vacancies can contact any EPA Human Resources Office, the Office of Personnel Management's Job Information Center (look in your local telephone book under "US Government"), or you can subscribe to a private publication which provides information on vacancies across the Federal Government.

EPA HUMAN RESOURCES OFFICES

EPA-Environmental Research Lab
200 SW 35th Street
Corvallis, OR 97330

EPA-Air and Energy Engineering Research Lab
Highway 54 and
Alexander Drive (MD-60)
Research Triangle Park,
NC 27711

EPA-Risk Reduction Engineering Lab
26 Martin Luther King Drive
Cincinnati, OH 45268

EPA-Atmospheric Research and Exposure Assessment Lab (MD-59)
Highway 54 and
Alexander Drive
Research Triangle Park,
NC 27711

EPA-Environmental Criteria and Assessment Office
Highway 54 and
Alexander Drive
Research Triangle Park,
NC 27711

EPA-Center for Environmental Research Information
26 Martin Luther King Drive
Cincinnati, OH 45268

EPA-Environmental Monitoring Systems Lab
26 Martin Luther King Drive
Cincinnati, OH 45219

EPA-Environmental Research Lab
College Station Road
Athens, GA 30613

EPA-Office of Senior ORD Official (MD-50)
Highway 54 and
Alexander Drive
Research Triangle Park,
NC 27711

EPA-Environmental Monitoring Systems Lab
944 East Harmon Street
Las Vegas, NV 89193

EPA-Health Effects Research Lab
Highway 54 and
Alexander Drive
Research Triangle Park,
NC 27711

EPA-Environmental Research Lab
6201 Congdon Boulevard
Duluth, MN 55804

EPA-R.S. Kerr Environmental Research Lab
Kerr Lab Road
Ada, OK 74820

EPA-Environmental Research Lab
Sabine Island
Gulf Breeze, FLA 32561

EPA-Office of Senior ORD Official
26 Martin Luther King Drive
Cincinnati, OH 45268

EPA-Large Lakes and Rivers Research Branch
9311 Groh Road
Grosse Ile, MI 48138-1697

EPA-Releases Control Branch
Raritan Depot, Building 10
Woodbridge Avenue
Edison, NJ 08837-3679

EPA-Pacific Ecosystems Branch
2111 SE Marine Science Drive
Newport, OR 97365

EPA-Office of Research and Development
Room NE-308-RD-674
401 M Street, SW
Washington, DC 20460

EPA-Environmental Research Lab
South Ferry Road
Narragansett, RI 02882

SOURCES OF ENVIRONMENTAL CAREER INFORMATION

Newsletters

Environmental Opportunities
Box 670
Walpole, NH 03608

Job Scan
The Student Conservation Assn., Inc.
P.O. Box 550,
Charleston, NH 03603

The Job Seeker
Rt. 2, Box 16
Warrens, WI 54666

The Nature People
Career Services
P.O. Box 98
Warrens, WI 54666

Environmental Careers
Circulation Dept.
760 Whalers Way, Suite 100-A
Fort Collins, CO 80525

Periodicals

Resource Recycling
P.O. Box 10540
Portland, OR 97210-9891

Recycle
Journal of Waste Recycling
Emmaus, PA 18049

Biocycle
P.O. Box 6854
Syracuse, NY 13217-7910

E: The Environmental Magazine
P.O. Box 6667
Syracuse, NY 13217-7914

Garbage
P.O. Box 51637
Boulder, CO 80321-1637

Friends of the Earth
218 D Street, SE
Washington, DC 20003
202-544-2600

WorldWatch
P.O. Box 6991
Syracuse, NY 13217-9917

Books

The Complete Guide to Environmental Careers
Island Press
Box 7, Dept. ECE
Lincoln, CA 95648

EPA does not necessarily endorse these publications. This list is provided as a sample of available information.

Another way to help our environment pass these materials on to another interested environmentalist.

Reuse, Recycle, Restore.

EPA recognizes the value of its employees and strives for effective Human Resources Management. The Agency is equally dedicated to achieving a representative work force. To this end, EPA's policy is to provide equal employment opportunity for everyone. To prohibit discrimination in employment because of race, color, religion, sex, age, national origin, or disability, and to promote the full realization of equal employment opportunities on the basis of merit and fitness through a continuing affirmative employment program.

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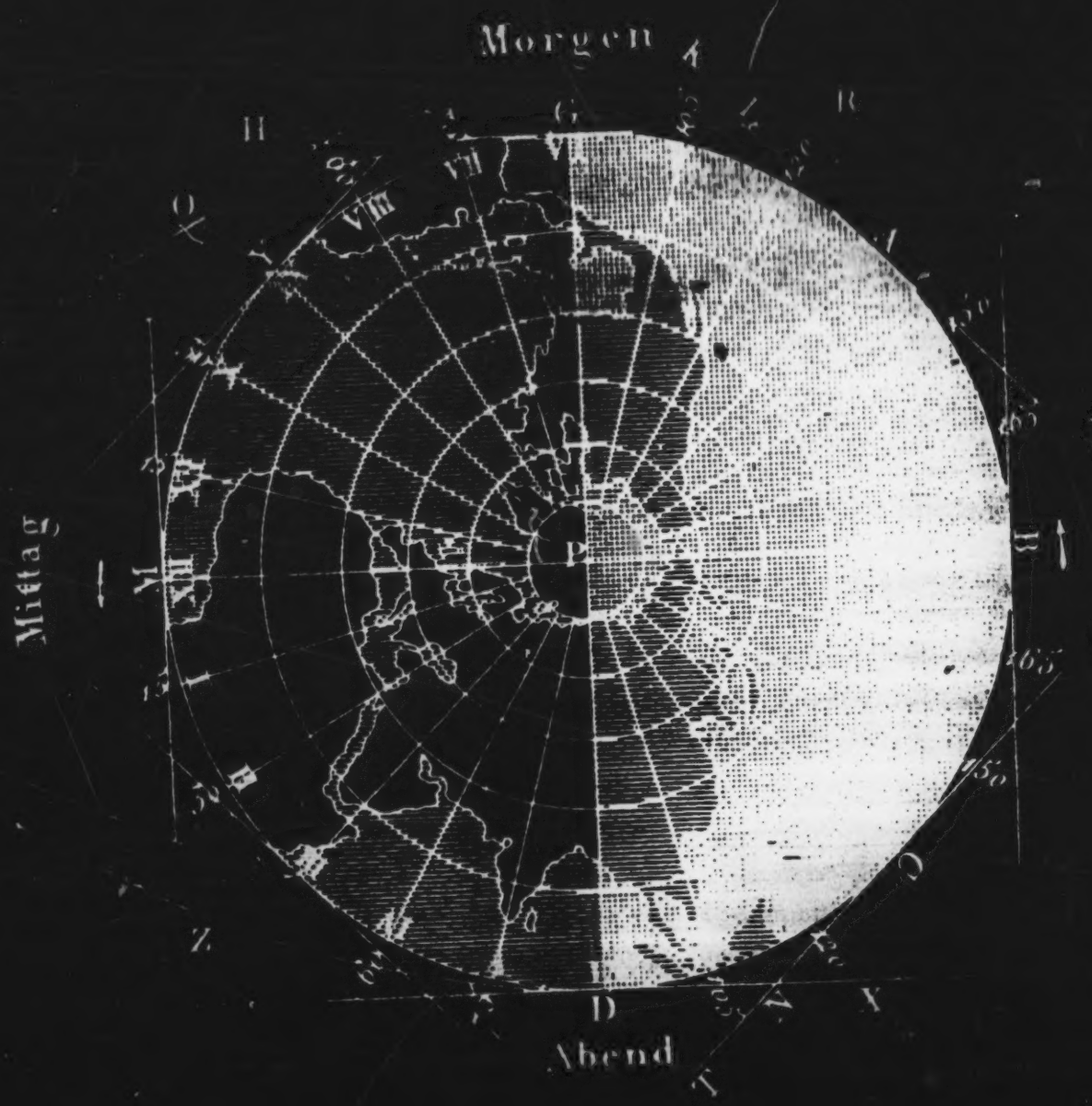
United States
Environmental Protection
Agency

National Recruitment
Program (PM 224)
Washington DC 20460

EPA 210-K92-009
August 1992



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